

1. Water-sensing and protection apparatus configured for use with a water-  
2 utilization device such as a washing machine, dishwasher or other appliance having a first  
utilization device such as a washing machine, dishwasher or other appliance having a first  
plug for making connection to a first electrical outlet, the apparatus comprising:  
4 a plurality of water sensors, each operative to close an electrical circuit in the  
presence of water;  
6 a second plug for making connection to the first electrical outlet;  
a second outlet for receiving the first plug of the water-utilization device; and  
8 an enclosure containing electrical circuitry, including:  
an electrically operated switch in an electrical path between the second  
10 plug and the second outlet, and  
electrical components interfaced to the water sensors causing the  
12 electrically operated switch to open the electrical path between the second plug  
and the second outlet in the event that a water sensor detects the presence of  
14 water.
2. The water-sensing and protection apparatus of claim 1, wherein one of the  
2 water sensors is contained in a flattened housing for detecting the presence of water on a  
floor.
3. The water-sensing and protection apparatus of claim 1, further including a  
2 vibration sensor causing the electrically operated switch to open the electrical path  
between the second plug and the second outlet in the event that excessive vibration is  
4 detected by the sensor.
4. The water-sensing and protection apparatus of claim 3, wherein the  
2 vibration sensor includes two electrodes extending into a sealed cavity containing a slug  
of mercury or other electrically conductive liquid.

5. The water-sensing and protection apparatus of claim 3, wherein the  
2 vibration sensor includes a body having an adhesive or magnetic material enabling it to  
be attached to and oriented on an appliance.

6. The water-sensing and protection apparatus of claim 1, wherein the second  
2 plug and the second outlet are aligned on the same plug-in body.

7. The water-sensing and protection apparatus of claim 1, further including a  
2 self-test switch mounted on the enclosure, the activation of which causes the electrically  
operated switch to open the electrical path between the second plug and the second outlet.

8. The water-sensing and protection apparatus of claim 1, further including a  
2 warning light mounted on the enclosure which illuminates when the electrical path  
between the second plug and the second outlet has been opened.

9. The water-sensing and protection apparatus of claim 1, further including  
2 an audible alarm mounted on the enclosure which sounds when the electrical path  
between the second plug and the second outlet has been opened.

10. The water-sensing and protection apparatus of claim 1, further including a  
2 reset switch mounted on the enclosure, the activation of which causes the electrical path  
between the second plug and the second outlet to be re-established if previously opened.

11. The water-sensing and protection apparatus of claim 1, wherein:  
2 the electrically operated switch is a relay having a first set of contacts controlling  
the electrical path between the second plug and the second outlet, and a second set of  
4 contacts controlling the first set of contacts; and

the electrical components interface the sensors to the second set of contacts, such  
6 that if any sensor is electrically shorted the relay trips causing the second set of contacts  
to open the electrical path between the second plug and the second outlet.

12. The water-sensing and protection apparatus of claim 1, wherein the  
2 electrical components interfacing the sensors to the second set of contacts includes a pair  
of transistors arranged in a Darlington configuration.

13. Water-sensing and protection apparatus configured for use with a water-  
2 utilization device such as a washing machine, dishwasher or other appliance having a first  
plug for making connection to a first electrical outlet, the apparatus comprising:

4           a plurality of water sensors and at least one vibration sensor;  
5           a second plug for making connection to the first electrical outlet;  
6           a second outlet for receiving the first plug of the water-utilization device; and  
7           an enclosure containing electrical circuitry, including:  
8                a relay having a first set of contacts controlling the electrical path between  
9                the second plug and the second outlet, and a second set of contacts controlling the  
10          first set of contacts; and

11           electrical components interfacing the sensors to the second set of contacts,  
12           such that if any sensor is electrically shorted the relay trips causing the second set  
13          of contacts to open the electrical path between the second plug and the second  
14          outlet.

14. The water-sensing and protection apparatus of claim 13, wherein one of  
2 the water sensors is contained in a flattened housing for detecting the presence of water  
on a floor.

15. The water-sensing and protection apparatus of claim 13, wherein the  
2 vibration sensor includes two electrodes extending into a sealed cavity containing a slug

of mercury or other electrically conductive liquid and an adhesive or magnetic material  
4 enabling the sensor to be attached to and oriented on an appliance.

16. The water-sensing and protection apparatus of claim 13, wherein the  
2 second plug and the second outlet are aligned on the same plug-in body.

17. The water-sensing and protection apparatus of claim 13, further including  
2 a self-test switch mounted on the enclosure, the activation of which causes the electrically  
operated switch to open the electrical path between the second plug and the second outlet.

18. The water-sensing and protection apparatus of claim 13, further including  
2 a warning light mounted on the enclosure which illuminates when the electrical path  
between the second plug and the second outlet has been opened.

19. The water-sensing and protection apparatus of claim 13, further including  
2 an audible alarm mounted on the enclosure which sounds when the electrical path  
between the second plug and the second outlet has been opened.

20. The water-sensing and protection apparatus of claim 13, further including  
2 a reset switch mounted on the enclosure, the activation of which causes the electrical path  
between the second plug and the second outlet to be re-established if previously opened.